

What is claimed is:

1. An apparatus for recording operation information in association with video or music reproduced by a reproduction device, said apparatus comprising:

a timer that generates a first time code;

an operator section that includes one or more operators and arranged to generate operation data by detecting an operational state of each of said operators;

a storage section;

a control section that causes said storage section to store the operation data of each of said operators, generated by said operator section, along with said first time code generated by said timer;

a reception section that receives a second time code given by the reproduction device, in relation to the video or music reproduced by the reproduction device, said second time code being of lower resolution than said first time code; and

a time code correction section that corrects said first time code, generated by said timer, on the basis of said second time code received by said reception section.

2. An apparatus as claimed in claim 1 wherein said time code correction section is capable of correcting said first time code in correspondence with a plurality of types of second time code of different resolution, and

wherein the resolution of said first time code is a common multiple of respective resolution of said plurality of types of second

time code.

3. An apparatus as claimed in claim 1 which further comprises:

a designation section that designates a type of second time code to be received by said reception means, from among a plurality of types of second time code of different resolution;

a retention section that retains a second time code of the type, designated by said designation section, as a current time code;

an updating section that converts said first time code, generated by said timer, into a second time code having the resolution of the designated type in accordance with the designated type and updating the current time code, retained by said retention section, with the second time code having the resolution of the designated type; and

a display section that displays the current time code retained by said retention section.

4. An apparatus as claimed in claim 1 wherein said time code correction section converts a value of said second time code into a value having the resolution of said first time code, in accordance with a ratio between the resolution of said first time code and the resolution of said second time code, and then sets the converted value in said timer as said first time code.

5. An apparatus for reproducing operation information in association with video or music reproduced by a reproduction device, said apparatus comprising:

a timer that generates a first time code;

a storage section that stores operation data, indicative of an operational state to be taken by at least one operator, along with time information indicative of a reproducing time when the operation data is to be reproduced;

a control section that reads out, from said storage section, the operation data for which the reproducing time has arrived, in accordance with a progression of said first time code generated by said timer;

a reception section that receives a second time code given by the reproduction device, in relation to the video or music reproduced by the reproduction device, said second time code being of lower resolution than said first time code; and

a time code correction section that corrects said first time code, generated by said timer, on the basis of said second time code received by said reception section, to thereby provide a corrected first time code;

wherein said control section reads out, from said storage section, each operation data for which the reproducing time has arrived, in accordance with a progression of the corrected first time code so that the operation data is reproduced from said storage section in association with the video or music reproduced by the reproduction device.

6. An apparatus as claimed in claim 5 which further comprises an operator section that includes one or more operators, an operational state of each of said operators being capable of being

automatically set, and

wherein, when given operation data is read out from said storage section by said control section, a corresponding one of said operators in said operator section is automatically set to an operational state in accordance with the read-out operation data.

7. An apparatus as claimed in claim 5 wherein said time code correction section is capable of correcting said first time code in correspondence with a plurality of types of second time code of different resolution, and

wherein the resolution of said first time code is a common multiple of respective resolution of said plurality of types of second time code.

8. An apparatus as claimed in claim 5 which further comprises:

a designation section that designates a type of second time code to be received by said reception means, from among a plurality of types of second time code of different resolution;

a retention section that retains a second time code of the type, designated by said designation section, as a current time code;

an updating section that converts said first time code, generated by said timer, into a second time code having the resolution of the designated type in accordance with the designated type and updating the current time code, retained by said retention section, with the second time code having the resolution of the designated type; and

a display section that displays the current time code retained

by said retention section.

9. An apparatus as claimed in claim 5 wherein said time code correction section converts a value of said second time code into a value having the resolution of said first time code, in accordance with a ratio between the resolution of said first time code and the resolution of said second time code, and then sets the converted value in said timer as said first time code.

10. A time code generating apparatus comprising:

a timer section that generates a first time code in accordance with passage of time;

a designation section that designates a type of time code from among a plurality of types of time code of different resolution;

a retention section that retains, as a current time code, a time code varying over time with a resolution of the type designated by said designation section; and

an updating section that converts said first time code, generated by said timer section, into a second time code having the resolution of the designated type in accordance with the designated type and updating the current time code, retained by said retention section, with the second time code having the resolution of the designated type,

wherein the current time code retained by said retention section is outputted.

11. A time code generating apparatus as claimed in claim 10

wherein a time resolution of said first time code is a common multiple of respective time resolution of said plurality of types of time code.

12. A time code generating apparatus as claimed in claim 10 which further comprises a display section that displays the current time code outputted by said retention section.

13. A method for recording operation information, indicative of operation on an operator unit including one or more operators, into a memory in association with video or music reproduced by a reproduction device, said method comprising:

- a step of generating a first time code sequentially varying over time;

- a step of generating operation data by detecting an operational state of each of said operators on said operator unit;

- a step of, in response to generation of the operation data by said step of generating operation data, causing said memory to store the generated operation data along with said first time code;

- a step of receiving a second time code given by the reproduction device, in relation to the video or music reproduced by the reproduction device, said second time code being of lower resolution than said first time code; and

- a step of correcting a current value of said first time code, generated by said step of generating a first time code, on the basis of said second time code received by said step of receiving.

14. A method for reproducing operation information of at least one operator from a memory in association with video or music reproduced by a reproduction device, said memory storing operation data, indicative of an operational state to be taken by said operator, along with time information indicative of a reproducing time when the operation data is to be reproduced, said method comprising:

a step of generating a first time code sequentially varying over time;

a step of reading out, from said memory, given operation data for which the reproducing time has arrived, in accordance with a progression of said first time code;

a step of receiving a second time code given by the reproduction device, in relation to the video or music reproduced by the reproduction device, said second time code being of lower resolution than said first time code; and

a step of correcting a current value of said first time code, generated by said step of generating a first time code, on the basis of said second time code received by said step of receiving, to thereby provide a corrected first time code;

wherein said step of reading out reads out, from said memory, each operation data for which the reproducing time has arrived, in accordance with a progression of the corrected first time code so that the operation data is reproduced from said memory in association with the video or music reproduced by the reproduction device.

15. A method as claimed in claim 14 wherein respective

operational states of one or more operators are capable of being automatically set, and

which further comprises a step of, when given operation data is read out from said memory, automatically setting a corresponding one of said operators to an operational state in accordance with the read-out operation data.

16. A method for generating a time code of a designated time resolution, said method comprising:

a step of generating a first time code of a predetermined time resolution in accordance with passage of time;

a step of designating a type of time code from among a plurality of types of time code of different time resolution;

a step of converting said first time code, generated by said step of generating, into a second time code having a time resolution of the designated type of time code; and

a step of retaining said second time code having the time resolution of the designated type in a register as a current value of the time code having the time resolution of the designated type, whereby the current value of the time code retained in the register is sequentially updated with said second time code having the time resolution of the designated type,

wherein the time code having the designated time resolution is retained in the register.

17. A program containing a group of instructions for causing a computer to perform a method for recording operation information,

indicative of operation on an operator unit including one or more operators, into a memory in association with video or music reproduced by a reproduction device, said method comprising:

a step of generating a first time code sequentially varying over time;

a step of generating operation data by detecting an operational state of each of said operators on said operator unit;

a step of, in response to generation of the operation data by said step of generating operation data, causing said memory to store the generated operation data along with said first time code;

a step of receiving a second time code given by the reproduction device, in relation to the video or music reproduced by the reproduction device, said second time code being of lower resolution than said first time code; and

a step of correcting a current value of said first time code, generated by said step of generating a first time code, on the basis of said second time code received by said step of receiving.

18. A program containing a group of instructions for causing a computer to perform a method for reproducing operation information of at least one operator from a memory in association with video or music reproduced by a reproduction device, said memory storing operation data, indicative of an operational state to be taken by said operator, along with time information indicative of a reproducing time when the operation data is to be reproduced, said method comprising:

a step of generating a first time code sequentially varying over

time;

a step of reading out, from said memory, given operation data for which the reproducing time has arrived, in accordance with a progression of said first time code;

a step of receiving a second time code given by the reproduction device, in relation to the video or music reproduced by the reproduction device, said second time code being of lower resolution than said first time code; and

a step of correcting a current value of said first time code, generated by said step of generating a first time code, on the basis of said second time code received by said step of receiving, to thereby provide a corrected first time code;

wherein said step of reading out reads out, from said memory, each operation data for which the reproducing time has arrived, in accordance with a progression of the corrected first time code so that the operation data is reproduced from said memory in association with the video or music reproduced by the reproduction device.

19. A program as claimed in claim 18 wherein respective operational states of the one or more operators are capable of being automatically set, and

which further comprises a step of, when operation data is read out from said memory, automatically setting a corresponding one of said operators to an operational state in accordance with the read-out operation data.

20. A program containing a group of instructions for causing a computer to perform a method for generating a time code of a designated time resolution, said method comprising:

a step of generating a first time code of a predetermined time resolution in accordance with passage of time;

a step of designating a type of time code from among a plurality of types of time code of different time resolution;

a step of converting said first time code, generated by said step of generating, into a second time code having a time resolution of the designated type of time code; and

a step of retaining said second time code having the time resolution of the designated type in a register as a current value of the time code of the time resolution of the designated type, whereby the current value of the time code retained in the register is sequentially updated with said second time code having the time resolution of the designated type,

wherein the time code of the designated time resolution is retained in the register.